



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## COLORADO PLANTS.

BY ISAAC C. MARTINDALE.

REALIZING the fact that all discoveries or observations, unless brought to the attention of the people in some way, cannot be expected to be of much advantage to them, I have prepared this article in the belief that some lover of flowers, who has been or may be traveling over the same route taken by myself, may find in it a help or an assistance in the prosecution of the study of botany, or in naming the specimens collected by the way.

The list of plants hereto appended is of the specimens collected while on an excursion of the members of the American Association for the Advancement of Science after the adjournment of the St. Louis meeting in 1878, and during the time of the meeting at St. Louis on the excursions around the city, chiefly near Cahokia, Illinois. The route taken from St. Louis was westward to Kansas city, thence by the Kansas Pacific R. R. to Denver, thence southward to Colorado Springs, Manitou, Garden of the Gods, Queens Cañon, Glen Eyrie and Pike's Peak, making the ascent by way of Engelmann's Cañon; continuing the journey from Colorado Springs southward to Alamosa and returning to Denver; thence by way of Clear Creek Cañon to Idaho Springs, Georgetown, Central city and Blackhawk, also visiting Boulder Cañon as far as the Falls.

The rapidity of travel and consequent difficulty in taking proper care of the specimens prevented a larger collection being made, yet it is believed it embraces the greater part of the plants that may be found on the line of the route traveled. About forty persons participated in the excursion, several of whom were interested in the botany of the region and made collections of plants; I have been favored with an examination of these, and think the list includes all or nearly all that were obtained. Mr. Thomas Meehan, of Germantown, State Botanist of Pennsylvania, was one of the excursion party, and having visited Colorado on two former occasions, was well informed about the plants, and rendered valuable service. Prof. Gray and Sereno Watson, of Cambridge, Mass., Dr. Vasey, of Washington, and others assisted in the naming of some of the more difficult species.

In the closing number of Vol. III of *Field and Forest*, published at Washington, D. C., may be found an article, by Lester F.

Ward, on "St. Louis and Botany," to which the reader is referred for a more minute account of the botanical features noticed there; it embraces some species not included in this article, as they were collected before I reached St. Louis. During the fall and early winter a series of articles appeared in the *West Jersey Press*, of Camden, New Jersey, descriptive of the entire journey, and giving a detailed account of the places visited. Lester F. Ward, who accompanied the excursion to Texas after the adjournment of the Nashville meeting in 1877, published a list of the botanical collections made on that occasion in the *Bulletin* of the Essex Institute, and it seems to me that if the results of the collections made on these annual excursions could be brought in some way before the people, it would be of great service to students and others engaged in scientific work.

The species collected in Colorado and not mentioned in Porter and Coulter's Flora are printed in *italics*, those collected in the vicinity of St. Louis are marked \*, those collected on the line of the railroad before reaching Colorado are marked †.

†*Clematis Pitcheri* T. & G.

" *ligusticifolia* Nutt.

*Thalictrum Fendleri* Eng.

*Anemone multifida* D. C.

*Ranunculus affinis* R. Br.

" *adoneus* Gray.

*Delphinium scopulorum* Gr.

*Argemone hispida* Gray.

*Corydalis curvisiliqua* Eng.

*Physaria didymocarpa* Gray.

\**Sisymbrium incisum* Eng.

*Erysimum asperum* D. C., var. *Arkan-*  
*sanum* Nutt.

*Lepidium intermedium* Gray.

" *montanum* Nutt.

*Cleome integrifolia* T. & G.

*Polanisia trachysperma* T. & G.

" *gravæolens* Raf.

*Silene acaulis* Linn.

" *Scouleri* Hook.

*Arenaria Fendleri* Gray.

*Talinum tetrifolium* Pursh.

*Claytonia Chamissonis* E. & L.

*Sidalcea malvæflora* Gray.

*Malvastrum coccineum* Gray.

*Geranium Fremontii* Torr.

†*Vitis indivisa* Willd.

*Ampelopsis quinquefolium* Mx.

*Acer glabrum* Torr.

*Rhus aromatica* Ait. var. *trilobata* Gr.

\**Æsculus glabra* Willd.

\**Baptisia leucantha* T. & G.

*Lupinus argenteus* Pursh, var. *decumbens*  
Watson.

*Trifolium involucreatum* Willd.

*Psoralea tenuiflora* Pursh.

*Petalostemon violaceus* Mx.

" *candidus* Mx.

*Astragalus mollissimus* Torr. (?)

*Sophora sericea* Pursh.

\**Desmodium canescens* D. C.

\**Phaseolus pauciflorus* Benth.

† " *diversifolius* Persoon.

\**Cassia nictitans* Linn.

\* " *chamæcrista* Linn.

*Robinia Neo-Mexicana* Gray.

*Prunus Virginiana* Linn.

*Neillia Torreyi* Watson.

*Spiræa discolor* Pursh, var. *dumosa* Wat-  
son.

*Rubus deliciosus* Torr.

" *strigosus* Mx.

- Cercocarpus parvifolius* Nutt.  
*Geum* Rossi Seringe.  
*Fragaria vesca* Linn.  
*Potentilla glandulosa* Lindl.  
     " *risalis*, Nutt.  
     " *dissecta* Pursh.  
     " *fruticosa* Linn.  
     " *Anserina* Linn.  
 \**Rosa setigera* Mich.  
     " *blanda*, Aiton, var. *setigera* Crépin.  
*Crataegus coccinea* L. var.  
*Saxifraga bronchialis* Linn.  
     " *nivalis* Linn.  
     " *Jamesii* Torrey.  
     " *chrysantha* Gray.  
*Jamesia americana* T. & G.  
*Sedum Rhodiola* D. C.  
     " *stenopetalum* Pursh.  
*Epilobium angustifolium* Linn.  
     " *paniculatum* Linn.  
*Gayophytum ramosissimum* T. & G.  
 †*Oenothera coronopifolia* T. & G.  
 †*Gaura parviflora* Dougl.  
 † " *biennis* Linn.  
 \**Ludwigia polycarpa* S. & P.  
 \**Ammania latifolia* Linn.  
*Mentzelia nuda* T. & G.  
     " *multiflora* Nutt.  
*Echinocactus Simpsoni* Eng.  
*Cereus viridiflorus* Eng.  
*Opuntia Rafinesquii* Eng.  
     " *Missouriensis* D. C.  
     " *arborescens* Eng.  
*Cucurbita perennis* Gray.  
 †*Echinocystis lobata* T. & G.  
*Cymopterus anisatus* Gray.  
*Ligusticum scopulorum* Gray.  
*Symphoricarpus montanus* H. B. K.  
     " *occidentalis* R. Br.  
 \* " *vulgaris* Mich.  
*Galium asperimurum* Gray.  
 † " *trifidum* Linn.  
     " *boreale* Linn.  
 \**Vernonia fasciculata* Mx.  
*Liatris punctata* Hook.  
*Pectis angustifolia* Torr.  
*Kuhnia eupatorioides* L.  
*Brickellia Wrightii* Gray.  
     " *grandiflora* Nutt.  
 \**Eupatorium serotinum* Mx.
- Townsendia eximia* Gray.  
 \**Boltonia glastifolia* L'Her.  
*Aster lævis* Linn.  
     " *multiflorus* Aiton.  
     " *falcatus* Lindl.  
     " *canescens* Pursh.  
     " *tanacetifolia* H. B. K.  
     " *Pattersonii* Gray.  
     " *glaucus* T. & G.  
     " *carneus* Nees.  
 †*Erigeron divaricatum* Mx.  
     " *grandiflorum* Hook.  
     " *bellidialstrum* Nutt.  
     " *macranthum* Nutt.  
     " *divergens* T. & G.  
     " *ursinum* Eaton.  
*Gutierrezia Euthamiae* T. & G.  
*Solidago Virga-aurea* L.  
     " " var. *multiradiata* T.  
     & G.  
*Solidago nemoralis* Aiton, var. *mollis*  
     Benth.  
*Solidago canadensis* Linn.  
*Bigelovia graveolens* Gray.  
*Aplopappus spinulosus* D. C.  
     " *pygmæus* Gray.  
     " *Parryi* Gray.  
 † " *ciliatus*.  
*Grindelia squarrosa* Dunal.  
*Chrysopsis villosa* Nutt.  
     " " var. *hispida*.  
*Pericome caudata* Gray.  
 \**Iva ciliata* Willd.  
 \* " *xanthiifolia* Nutt.  
 \**Ambrosia psilostachya* D. C.  
 \* " *tridentata*.  
 \**Eclipta procumbens* Michx.  
 †*Heliopsis lævis* Pursh., var. *scabra*.  
*Rudbeckia hirta* Linn.  
 †*Lepachys columnaris* T. & G.  
*Helianthus lenticularis* Dougl.  
 \* " *rigidus* Desf.  
     " *pumilis* Nutt.  
     " *Maximilliana* Schrad.  
*Heliomeris multiflora* Nutt.  
 \**Coreopsis aristosa* Mx., var. *mutica*.  
*Ximenesia encelioides* Cav.  
*Dysodia chrysanthemoides* Lag.  
*Gaillardia aristata* Pursh.  
*Actinella grandiflora* T. & G.

- Artemisia borealis* Pall.  
 " *Canadensis* Mx.  
 " *filifolia*, Torr.  
 " *tridentata* Pursh.  
 " *Ludoviciana* Nutt.  
 " " var. *gnaphalodes*  
 T. & G.  
 " *frigida* Willd.  
 " *scopulorum* Gr.  
 " " var. *monocephala*.  
 " *arctica* Less.  
 \**Gnaphalium uliginosum* Linn.  
*Antennaria dioica* Gau.  
*Arnica alpina*.  
 " *mollis* Hook.  
*Senecio eremophilus* Rich.  
 " *Bigelovii* Gray.  
 " *Fendlerii*.  
 " *spartioides*.  
 " *rapifolius* Nutt.  
 \**Cacalia atriplicifolia* Linn.  
*Cnicus eriocephalus* Gray.  
 " *edulis* Nutt. (?)  
*Troximon glaucum*.  
 \**Lactuca scariola* Linn.  
 † " *elongata* Muhl.  
*Lygodesmia juncea* Don.  
*Campanula uniflora* Linn.  
 " *Scheuchzeri* Vill.  
 " *rotundifolia* Linn.  
*Arctostaphylos Uva-ursi* Spreng.  
*Pyrola secunda* Linn.  
*Androsace chamæjasme* Host.  
 " *septentrionalis* Linn.  
*Asclepias Jamesii* Torrey.  
 \* " *verticillata* Linn.  
 \**Acerates longifolia* Ell.  
 \**Ensenia albida* Nutt.  
*Gentiana Amarella* Linn.  
 " " var. *stricta* Watson.  
 " *frigida* Hænke.  
 " *Parryi* Engel.  
 " *affinis* Griseb.  
*Frasera speciosa* Dougl.  
*Collomia linearis* Nutt.  
 " *longiflora* Gray.  
*Gilia aggregata* Spreng.  
 " *pinnatifida* Nutt.  
*Phacelia circinata* Jacq. f.  
 " *glandulosa* Nutt.  
*Nama dichotomum* R. & P., var. *angustifolium* Gray.  
*Echinosperrum Virginicum* Lehm.  
 † " *Redowskii* Lehm. var.  
*occidentale* Watson.  
*Eritrichium crassisepalum* T. & G.  
 " *Jamesii* Torr.  
 " *glomeratum* D. C., var. *virgatum* Porter.  
*Mertensia alpina* Don.  
 \*(*Onosmodium carolinianum* D. C.  
*Ipomea leptophylla* Torr.  
*Evolvulus argenteus* Pursh.  
*Cuscuta decora* Choisy.  
*Solanum triflorum* Nutt.  
 \* " *Carolinense* Linn.  
 " *rostratum* Dunal.  
 † " *nigrum* Linn.  
*Physalis hederæfolia* Gray. (?)  
 † " *lanceolata* Michx.  
 " *lobata* Torr.  
*Pentstemon secundiflorus* Benth.  
 " *glaucus*, Graham, var. *stenosepalus* Gray.  
*Chionophila Jamesii* Benth.  
*Mimulus floribundus* Dougl.  
 \**Conobea multifida* Benth.  
 \**Herpestis rotundifolia* Pursh.  
 \**Synthesis Houghtoniana* Benth.  
*Veronica peregrina* Linn.  
 \**Gerardia purpurea* Linn.  
*Castilleja linariæfolia* Benth.  
 " *miniata* Dougl.  
 " *pallida* Kunth.  
 " *breviflora* Gray.  
*Orthocarpus luteus* Nutt.  
*Pedicularis Parryi* Gray.  
 " *procera* Gray.  
 \**Ruellia ciliosa* Pursh.  
 † " *strepens* Linn.  
 \**Verbena stricta* Vent.  
 " *bracteosa* Michx.  
 " *Aubletia* Linn.  
 \**Teucrium canadense* Linn.  
 \**Mentha sativa* Linn.  
*Hedeoma Drummondii* Benth.  
 †*Salvia azurea* Lam., var. *grandiflora* Benth.  
 † " *lanceolata* Willd.  
*Monarda fistulosa* Linn.  
 †*Blephilia hirsuta* Benth.  
 †*Lophanthus nepetoides* Benth.  
*Dracopcephalum parviflorum* Nutt.  
*Plantago patagonica* Jacq., var. *gnaphalioides* Gray.

- Plantago patagonica* var. *aristata* Gray.    *Pinus contorta* Dougl.  
*Mirabilis multiflora* Gray.    " *ponderosa* Dougl.  
" *oxybaphoides*.    " *flexilis* James.  
\**Oxybaphus nyctagineus* Sweet.    " *aristata* Engelm.  
" *angustifolius* Sweet.    *Abies Engelmanni* Parry.  
*Abronia fragrans* Nutt.    " *Douglassii* Lindl.  
*Chenopodium Fremontii* Watson.    " *concolor* Lindl.  
*Blitum capitatum* Linn.    *Juniperus virginiana* L.  
*Obione argentea* Moq.    " *occidentalis* Hook.  
*Eurotia lanata* Moq.    *Typha latifolia* Linn.  
†*Alternanthera lanuginosa* Torr.    *Iris Missouriensis*.  
*Paronychia Jamesii* T. & G.    *Sisyrinchium Bermudiana* L.  
*Eriogonum alatum* Torr.    *Smilax herbacea* Linn.  
" *Jamesii* Benth.    *Streptopus amplexifolius* D. C.  
" *umbellatum* Torr.    *Calochortus Gunnisonii* Watson.  
" *microthecum* Nutt., var. *effu-* *Allium cernuum* Roth.  
" *sum* T. & G.    " *reticulatum* Fraser.  
" *annuum* Nutt.    *Yucca angustifolia* Pursh.  
*Oxyria digyna* Camp.    *Juncus Balticus* Deth., var. *montanus*  
*Rumex salicifolius* Weinm.    Eng.  
*Polygonum ramosissimum* Mx.    *Tradescantia Virginica* Linn.  
" *tenue* Mx.    †*Cyperus Schweinitzii* Torr.  
" *Pennsylvanica* Linn.    *Carex atrata* Linn.  
" *Bistorta* Linn.    *Lycurus phleoides* H. B.  
† " *Persicaria* Linn.    *Sporobolus cryptandrus* Gray.  
† " *Hydropiper* Linn.    *Vilfa tricholepis* Torr.  
† " *acre* H. B. K.    *Muhlenbergia gracilis* Trin.  
*Arceuthobium americanum* Nutt.    " *glomerata* Trin.  
†*Euphorbia hexagona* Nutt.    " *gracillima* Torr.  
" *marginata*, Pursh.    *Calamagrostis sylvatica* D. C.  
" *montana* Engelm.    *Stipa viridula* Trin.  
† " *heterophylla* var. *graminifolia*.    *Bouteloua oligostachya* Torr.  
\* " *dentata* Mx.    " *hirsuta* Lag.  
\* " *humistrata* Englm.    " *curtipendula* Gray.  
†*Croton Texensis* Müller.    *Munroa squarrosa* Torr.  
\* " *capitatum* Michx.    \**Tricuspis purpurea* Nutt.  
*Urtica gracilis* Aiton.    *Poa tenuifolia* Nutt.  
*Parietaria Pennsylvanica* Muhl.    " *andina* Nutt.  
*Humulus Lupulus* Linn.    \**Eragrostis reptans* Nees.  
*Quercus undulata* Torrey, var. *Gunnisonii*.    *Festuca ovina* L., var. *brevifolia* Watson.  
*Betula occidentalis* Hook.    *Bromus Kalmii* Gray.  
†*Celtis occidentalis* Linn.    *Lepturus paniculatus* Nutt.  
*Salix longifolia* Muhl., var. *argyrophylla*    *Elymus Canadensis* Linn.  
Nutt.    " *Sitanion* Schult.  
" *cordata* Muhl.    *Cenchrus tribuloides* Linn.  
" *desertorum* Rich.    *Andropogon furcatus* Muhl.  
" *flavescens* Nutt. (?)    *Cheilanthes lanuginosa* Nutt.  
*Populus tremuloides* Mx.    *Woodsia scopulina* Eaton.  
" *angustifolia* James.    *Notholæna Fendleri* Kunze.  
" *monilifera* Aiton.    *Selaginella rupestris* Spring., var. *tropica*.

The following notes refer mostly to the species not mentioned in Porter and Coulter's Flora :

*Argemone hispida* Gray, is quite frequent along the base of the foot-hills below Denver with *A. mexicana*, but the stem is more hispid.

*Polanisia graveolens* Raf., by the roadside at the entrance to Boulder Cañon.

*Ampelopsis quinquefolia* Mx., collected in Queens Cañon, differs from the eastern form in the flowers being more persistent, the petals strongly reflexed, the leaves with larger and more acuminate teeth, and with remarkably falcate tips; the pedicels are more slender and drooping in fruit.

*Psoralea tenuiflora* Pursh, on the plains, not common.

*Robinia Neo-Mexicana* Gray, several clumps of trees on the side of the railroad in Southern Colorado.

*Cratægus coccinea* L., var. by the roadside at the entrance to Boulder Cañon: very conspicuous on account of the profusion of red fruit, the leaves are larger, the thorns stronger and often with rudimentary ones from their side.

*Saxifraga chrysantha* Gray. Pike's Peak, very scarce.

*Townsendia eximia* Gray. Veta Pass, Southern Colorado, not common.

*Aster Pattersonii* Gray. By the side of the railroad near Forks' Creek station.

*Erigeron ursinum* Eaton. Near Georgetown.

*Pericome caudata* Gray. Dr. Gray in examining this plant detected one or two delicate awns, the presence of which is likely to affect the genus; he says: "*Pericome caudata* has sometimes in its fullest development one or two slender, sparsely hirsute, rather deciduous awns surmounting the margins of the akene." Hence this plant collected in Queens Cañon becomes variety, or rather forma, *aristata*.

*Helianthus Maximiliana* Schrad. This plant is moving westward along the sides of the railroad.

*Artemisia arctica* Less. Pike's Peak.

*Arnica alpina*. Collected by T. Meehan near Pueblo.

*Senecio Fendleri*. Pike's Peak trail.

*Senecio spartioides*. Near Manitou Springs.

*Senecio rapiifolius* Nutt. Clear Creek Cañon and Garden of the Gods.

*Cnicus edulus* Nutt. (?). A single plant collected near Veta Pass; whilst agreeing tolerably well with the description of this species, the specimen is not in a condition to be satisfactorily determined. T. Meehan, who collected it, says he has not seen this plant from Colorado before.

*Troximon glaucum*. On the roadside between Bellevue mountain and Central City; quite scarce.

*Phacelia glandulosa* Nutt. Southern Colorado.

*Physalis hederæfolia* Gray (?). On the plains before reaching Denver; plant prostrate and very viscid, leaves small and short petioled.

*Mimulus floribundus* Dougl. The specimens collected at Boulder Falls have all the pedicels shorter than the leaves.

*Herpestis rotundifolia* Pursh. Collected at Cahokia, Illinois; with the leaves having punctate dots.

*Salix flavescens* Nutt. (?) On the trail to Pike's Peak through Engelmann's Cañon. M. S. Bebb says: "It has been frequently collected and is most likely allied to *S. flavescens* Nutt. of the Pacific coast, somewhat as *S. Fendleriana* is allied to *S. lasiandra*, that is, it may prove a hybrid between that and *S. discolor*."

*Populus monilifera* Aiton. On the low lands near Pueblo.

*Abies concolor* Lindley and *Juniperus occidentalis* Hook. In Engelmann's Cañon and Queens Cañon.

*Smilax herbacea* Linn. Plant more robust than the eastern form, leaves larger, more rounded; one specimen, only, collected in Glen Eyrie, with no evidence of the odor that usually accompanies the plant.

*Lycurus phleoides* H. & B. Collected in the Garden of the Gods, probably introduced from Mexico by traveling teamsters.

*Muhlenbergia glomerata* Trin. A form of this species near Manitou, not common.

—:O:—

## MOLD AS AN INSECT DESTROYER.

BY C. G. SIEWERS.

THE perplexing problem: How shall we check the excessive increase of noxious insects that imperil our crops? has been put in a fair way of solution by the researches of Dr. Bain, a Prussian savant, as recorded by Dr. Hagen, of Cambridge, Mass., in the June number of the *Canadian Entomologist*.